left intact, and not swollen by reagents, the method consisting in treating thin sections of fresh material at once with saturated picric acid, washing with alcohol, and staining with aniline blue.

V. "Note on the Discovery of Bacilli in the Condensed Aqueous Vapour of the Breath of Persons affected with Phthisis." By Arthur Ransome, M.A., M.D. Communicated by Dr. W. Roberts, F.R.S. Received November 8, 1882.

In the year 1869 I communicated to the Literary and Philosophical Society of Manchester a paper "On the Organic Matter of the Human Breath in Health and Disease" (Memoirs, vol. iv, 3rd Series, p. 234).

The method employed was to condense the vapour of the breath in a large glass globe, surrounded by ice and salt; and the fluid so collected was then examined chemically and microscopically. The vapour in condensing was found to carry with it all the organic matter contained in the breath. Certain chemical variations in this fluid were noted, and in addition to epithelial scales, which were also found in health, the breath of diseased persons was found to contain certain organised bodies.

It appeared probable that the breath of persons in advanced stages of phthisis would contain the bacillus of tubercle, and that this organism could be rendered visible by the method of staining.

The aqueous vapour of the breath of certain cases of advanced phthisis was accordingly condensed in above-mentioned manner, and each specimen was separately examined. In order to carry down the organic particles, and to afford a basis by which the substances obtained could be made to adhere to the microscopic cover-glasses, it was necessary to add some glutinous material to the condensed fluids. In some instances I used for this purpose fresh white of an egg, in others mucus from the mouth, that had been separately examined by staining, and which had been found free from bacilli. No attempt was made to sterilise any of the fluids, the ordinary bacteria of putrefaction being left unstained in the process used.

The method of staining employed was that suggested by Dr. Heneage Gibbes, in which magenta and aniline are first used, and then after discharging the colour, from all but the bacilli, by dilute nitric acid, chrysoidin is used to throw them into relief. (See "Brit. Med. Journal," August 5, 1882.) It is affirmed that by this method only the *Bacillus tuberculosus* is stained red.

I have now to state that in the aqueous vapour obtained from two persons suffering from phthisis, I have found specimens of a bacillus, which takes the staining in the same manner as the bacillus found in

phthisical sputa and in tubercle, and which is indistinguishable from that organism. In several cases of acute phthisis the search for the organism was unsuccessful, and none were found in the aqueous vapour condensed from the waiting room of the Consumption Hospital in Manchester.

Koch has shown that the dust from dried phthisical sputa is capable of conveying the disease, but the above-mentioned discovery of the bacillus in the breath renders it probable that particles contagious to susceptible individuals are constantly being breathed in with the air, and it is possible that at some future time, the bacillus of tubercle may, by careful cultivation of the vapour of crowded rooms, be obtained from this source.

November 23, 1882.

THE PRESIDENT in the Chair.

In pursuance of the Statutes, notice was given from the Chair of the ensuing Anniversary Meeting, and the list of Officers and Council nominated for election was read, as follows:—

President.—William Spottiswoode, M.A., D.C.L., LL.D.

Treasurer.—John Evans, D.C.L., LL.D.

Secretaries.— { Professor George Gabriel Stokes, M.A., D.C.L., LL.D.
Professor Michael Foster, M.A., M.D.

Foreign Secretary.—Professor Alexander William Williamson, Ph.D., LL.D.

Other Members of the Council.—Professor W. Grylls Adams, M.A., John Ball, M.A.; Thomas Lauder Brunton, M.D., Sc.D.; Professor Heinrich Debus, Ph.D.; Francis Galton, M.A.; Professor Olaus Henrici, Ph.D.; Professor Thomas Henry Huxley, LL.D.; Professor E. Ray Lankester, M.A.; Professor Joseph Lister, M.D.: Professor Joseph Prestwich, M.A.; Professor Osborne Reynolds, M.A.; Professor Henry Enfield Roscoe, B.A., LL.D.; Marquis of Salisbury, K.G., M.A.; Osbert Salvin, M.A.; Warington W. Smyth, M.A., F.G.S.; Edward James Stone, M.A.

The Presents received were laid on the table, and thanks ordered for them.

The following Papers were read:—